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Cliometrics of Higher Education and Convergence in France: 1964-2000

*Valérie Canals, Claude Diebolt & Magali Jaoul**

Abstract: One of the main themes covered over the past decade in the macroeconomic literature is that of the convergence of regional or national economies. This research approach is applied to the evolution of the weight of French higher education in the total numbers of school enrolment during the period 1964-2000. How is higher education distributed in France? How has this distribution evolved? Is there a process of convergence between the French regions?

One of the major themes covered in the macro-economic literature during the past decade is that of the convergence of regional or national economies. In the tradition of growth models, much work has examined the trajectories of economies in order to determine whether or not a process of convergence between them exists. The fundamental question raised is that of knowing whether economies tend to converge towards the same levels of per capita income or production, in other words whether there is a catching up mechanism that enables an economy to reach the per capita income level of a more developed economy. The aim of this article is to continue previous work [cf. CANALS V., DIEBOLT C., JAUL M. & SAN MARTINO G. 1999-2002] and apply this research to the evolution of the weight of French higher education in total education during the period 1964-2000. How is higher education distributed within the territory? How has this distribution evolved? Can a convergence process be observed between the French regions?

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For a number of years now, the work of the *Direction de la programmation et du développement* (DPD) on the geography of schooling has replied to the question by analysing school attendance disparities within France¹. Scholastic success, the content of the teaching provided, numbers of school leavers, levels of training and the courses followed by pupils are all indicators that show differences between regions. Although the same differences were observed until recently between northern/north-eastern France on the one hand and the greater attendance in western/south-western France on the other, it appears that classifications changed in the 1990s and that the gaps between the regions closed. As an extension of this work, our aim is not to study the genesis of these disparities but to illustrate convergence movements between regions in a long dynamic perspective (1964-2000). Have the gaps between regions widened? Have university concentration phenomena become more marked? Has the supply of training evolved at the same time? Is the hypothesis of catching up by the regions that initially had less training verified? Can one hope for an evening out of the weight of higher education in the total number of persons receiving education?

The evolution of the geography of higher education between 1964 and 2000 is first analysed. The convergence tests are then described. Finally, territorial disparities and the evolution of convergence processes are the subject of a number of interpretations.

How can one describe the catching up mechanisms that enable the regions with the smallest supply of higher education to reach the level of those with a high level? Can one talk in terms of a structurally smaller supply? How can the education policy participate in a narrowing of the gaps?

1. The geography of higher education: permanence or change?²

It is now widely accepted that higher education and research play an important role in regional economic development and in regional development policy. Although few economic impact assessments have been conducted and their quantification is relatively cautious, they do show that beyond the expected return on investment (in long-term productivity especially), the creation of higher education structures has an immediate effect on economic activity and local employment via the direct consumption of goods and services, the existence of transfer of technology to businesses, the image of the town and also the attraction of businesses in search of university skills and the enriching of

¹ The territorial area chosen in this work is the administrative region.

² All our data are drawn from national population census and Ministry of Education (DPD) statistics.

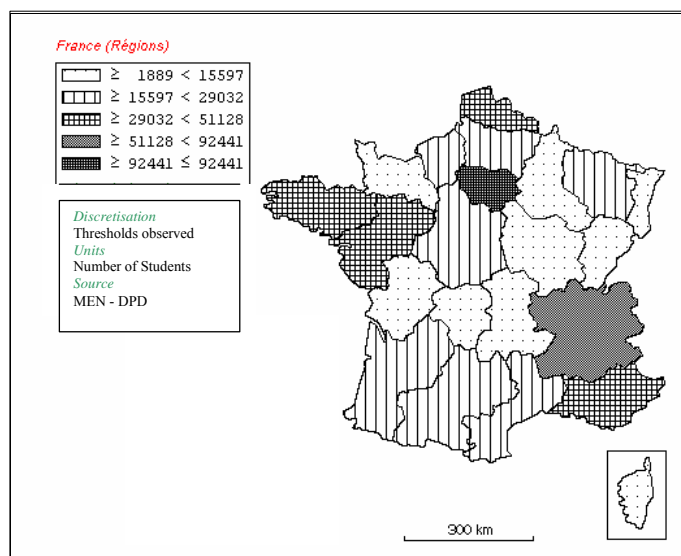
local human capital [BASLÉ M. & LE BOULCH J.-L. 1999, GAGNOL L. & HÉRAUD J.-A. 2001].

The transition from an industrial economy to a society founded principally on the production and dissemination of information and knowledge encourages the demand for education, especially at the level of access to higher education. The territorial grid pattern of supply of higher education seems to correspond to this reality today. Indeed, '[...] *higher education establishments are now well distributed as a whole over the whole of the territory*' in spite of a few problems of legibility, coherence and concentration observed in the pattern of collective services of higher education and research [DATAR 2001].

1.1. A continuous increase in the number of students

The percentage of 15-24-year-olds in full time education in mainland France reveals a contrast between the north and the south. Over the years, the contrast has been reduced considerably thanks to the particular progress in school attendance north of the Loire (Brittany, Normandy, the north and the north-east).

Figure 1: Numbers of baccalauréat-holders by region in 2000 (metropolitan France: 501,941 baccalauréat-holders)

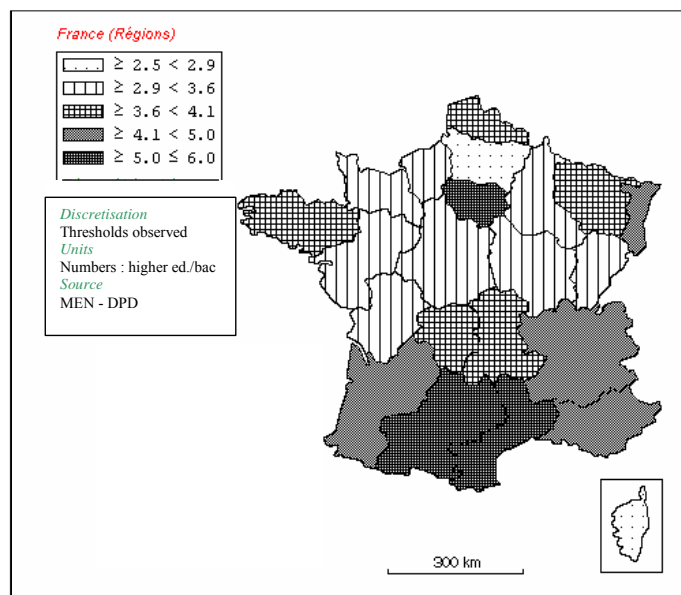


The number of baccalauréat holders has increased considerably, doubling since the 1980s. The proportion of holders has stabilised at about 69% in a given age bracket. This evolution has been accompanied by a decrease in the gaps between education authority areas. The historical opposition between a

tertiary South of France with strong school attendance and a little-educated north is not as distinct as it used to be; the stages in the rise in the level of education have revealed a succession of new, changing landscapes [DAUTY F. 2001]. Nevertheless, a difference of nearly 15 points was still observed in 1999 between the two extremes of the scale (55.9% in Languedoc-Roussillon and 70.6% in Limousin) [CCPR 2001]. As is seen in the map below, not all regions have the same resources in baccalauréat-holders (Figure 1). Six regions produce more than 55% of baccalauréat-holders: Ile-de-France, Rhône-Alpes, Nord-Pas-de-Calais, Provence-Alpes-Côte-d'Azur, Pays de la Loire and Bretagne.

The numbers of students enrolled in higher education depend on both the number of baccalauréat-holders who continue their education and the duration of studies. Given the low geographical mobility of baccalauréat-holders when they first enrol in higher education, recruitment by higher education establishments therefore depends strongly on their internal organisation and the structure of regional training systems. A rapid comparison of two 'stocks'— baccalauréat-holders on the one hand and students enrolled in higher education on the other—varies from 2 to 6 according to the region. In Ile-de-France, one baccalauréat-holder 'produced' in the region corresponds to six students. The proportion is 1:5 in Languedoc-Roussillon and Midi-Pyrénées and 1:4 in Alsace, Rhône-Alpes, Provence-Alpes-Côte-d'Azur and Aquitaine (Figure 2).

Figure 2: Comparison of the numbers of baccalauréat-holders and students enrolled in higher education in 2000



These results agree with analyses of inter-education authority area migration of baccalauréat-holders at the entry to higher education [BENNANI N. 1998].

Several structural phenomena are underlined from the geographical point of view:

- nearly 98% of baccalauréat-holders in Ile-de-France remain in their region (in comparison with fewer than 90% of baccalauréat-holders in provincial education authority areas). Only 1.8% of provincial baccalauréat-holders go to Ile-de-France for higher education. Ile-de-France is nonetheless an attractive region, as shown by the positive migration balance. It hosts 15.6% of migrant provincial baccalauréat-holders, half of whom are from adjacent education authority areas (Orléans-Tours, Amiens, Rouen and Dijon);
- fewer than 10% of provincial students migrate to another provincial education authority area. More than 70% of such migration is to an adjacent education authority, often the result of better geographic accessibility from frontier zones. The following provincial education authority areas have positive migratory balances greater than 1,000 baccalauréat-holders: Lille, Lyons, Strasbourg and Toulouse, while Grenoble, Orléans-Tours and Amiens have negative migration balances of more than 1,000 baccalauréat-holders.

This work reveals the existence of several configurations. Certain education authority areas lose many people and attract many (e.g. Reims and Limoges) and others lose few and attract many (e.g. Toulouse, Montpellier and Lyon). Other authorities lose few and attract few (e.g. Lille, Rennes and Nantes) while others lose many and attract few (e.g. Orléans-Tours) [SÉNAT 2001]. These results confirm the analyses drawn from the last census in which the five most attractive regions for students were Ile-de-France, Midi-Pyrénées, Nord-Pas-de-Calais, Languedoc-Roussillon and Rhône-Alpes [JULIEN P., LAGANIER J. & POUGNARD J. 2001].

From a dynamic point of view, the number of students increased strongly at the end of the 1950s. The annual increase was close to 10% in the 1960s. In 1970, 585,255 students were enrolled in higher education. The increase was not as strong during the next two decades, but it then accelerated from the end of the 1980s onwards to such an extent that one can talk in terms of 'mass higher education' today. Taking all enrolments in higher education into account shows that more than half of the population of 18-22-year-olds is in higher education.

The strong increase is the result of several factors:

- the combined effects of demography and progress of attendance in general and technological secondary education (broadening of subjects and the creation of a professional baccalauréat);
- social demand for education relayed by families (prolongation of education);

- a voluntaristic national educational policy (80% of an age group takes the baccalauréat);
- diversity of the student population, contributing to increasing the numbers (e.g. students resuming studies, the weight of continuing education, etc.);
- the effect of economic demand gambling on the development of tertiary activities and more generally of activities with high value-added, etc.;
- diversification of the supply of education, etc.

The rapid rise in the average level of training at the school-leaving stage is accompanying changes in French society such as the tertiarisation of the economy and the rise of executives. Once the hypothesis of the correspondence of educational qualifications and occupational titles has been accepted, it seems logical to see two aspects of the same phenomenon in the increase of the number of graduates and of that of executives³. The proportion of executives in the working population gives a simplified image of the average cultural level of the population and contributes to the differentiation in the rate of access to universities, as the children of executives and of persons with intellectual occupations are more likely to go to university. According to the most recent Ministry of Education statistics, students in the more privileged social categories continue to be over-represented at the expense of young people in more modest social categories. Considering all university specialisations, 31% of students have senior executive or professional parents, 10% have working class parents and only 2.5% are the sons or daughters of farmers [MEN DPD 2002a].

The aim here is not that of taking up again work concerning the discussion of the evolution or not of the democratisation of access to higher education, which has been the subject of abundant literature [BOUDON R. 1973, VALLET L. A. 1988, GOUX D. & MAURIN E. 1995, GALLAND O. & ROUAULT D. 1996, DURU-BELLAT M. & KIEFFER A. 1999, THELOT C. & VALLET L.A. 2000, etc.]. We simply wish to compare maps illustrating the weight of higher education and executives. It thus appears that the regions whose working populations contain a high proportion of executives are those that are the most marked by higher education. According to the results of the last census, the proportion of executives in the employed working population is very high in Ile-de-France (21%) and in the southern regions (between 10.5 and 11.5% – Figure 3). In contrast, they are little present in zones with a working class tradition (Figure 4).

³ The results of the last census show that executives and persons in intellectual jobs total more than 3 million people. The number increased by more than 67 % between the 1982 and 1999 censuses. One of the features of this population is its concentration in the regional metropolises and the comparative stagnation of the gaps between regions in time.

Figure 3: Proportion of executives in the working population in 1999
(metropolitan France: 11.9 %)

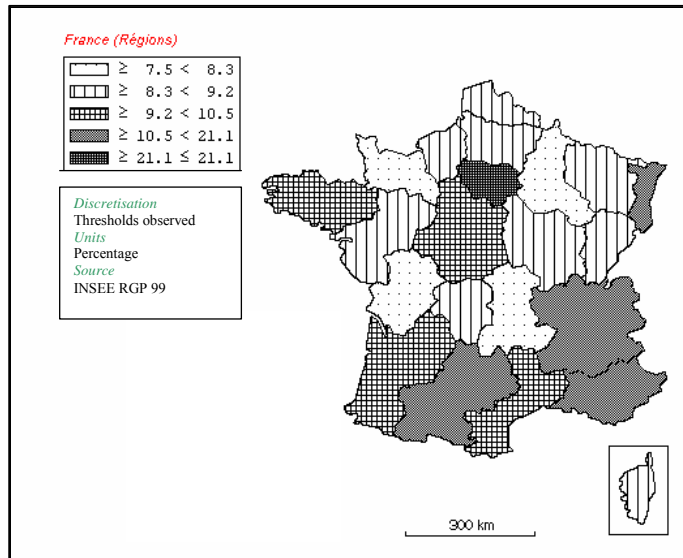
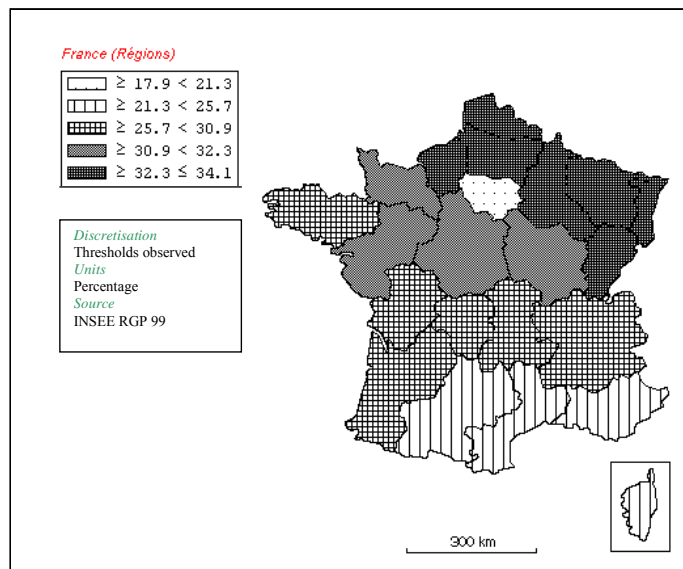


Figure 4: Proportion of workers in the working population in 1999
(metropolitan France: 26.6 %)



At the beginning of the 2000-2001 academic year, more than two million students were enrolled in higher education in comparison with 370,000 in the mid-1960s. This represents nearly 15.3% of the entire population receiving education in comparison with 8.2% two decades earlier and less than 4% at the beginning of the 1960s. How is this evolution distributed within France? What changes have there been to the map of higher education since the mid-1960s?

1.2. Territorial redistribution of the student population

The map of higher education is varied and contrasted. Its evolution bears the mark of history [DIEBOLT C., JAOU L M. & SAN MARTINO G. 2003], that of urban development in the east and the south-east and the still visible lag in regions in which education was long a poor lever for social ascension.

Regional higher education systems changed during the period 1964-2000. Although the proportion of students enrolled in higher education increased in all metropolitan regions, the increase was not uniform everywhere in spite of a certain rebalancing between Ile-de-France and the provinces. In 2000, 26% of students were in Ile-de-France against 35% in 1964. However, in spite of public efforts such as the *Plan U 2000*, the university 'grid' is still irregular in metropolitan France. The gaps between the north and the south remained throughout our observation period (Figures 5 to 9).

Figure 5: Higher education in 1964 (metropolitan France: 3.46 %)

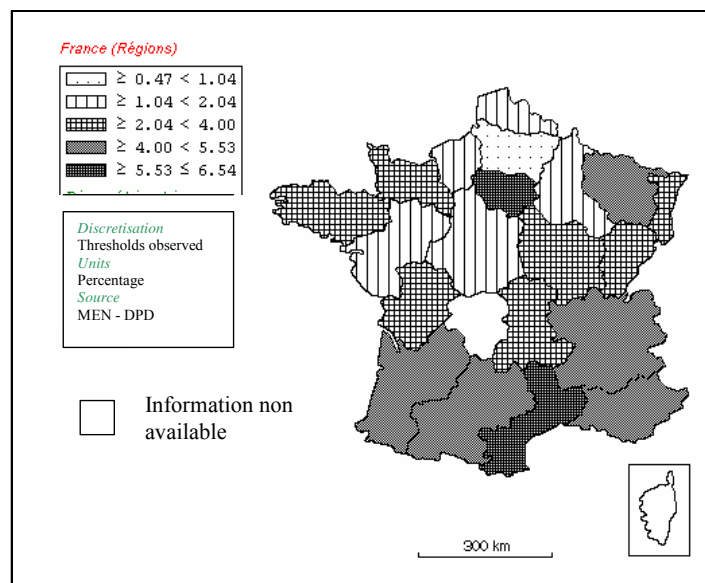


Figure 6: Higher education in 1972 (metropolitan France: 6.08 %)

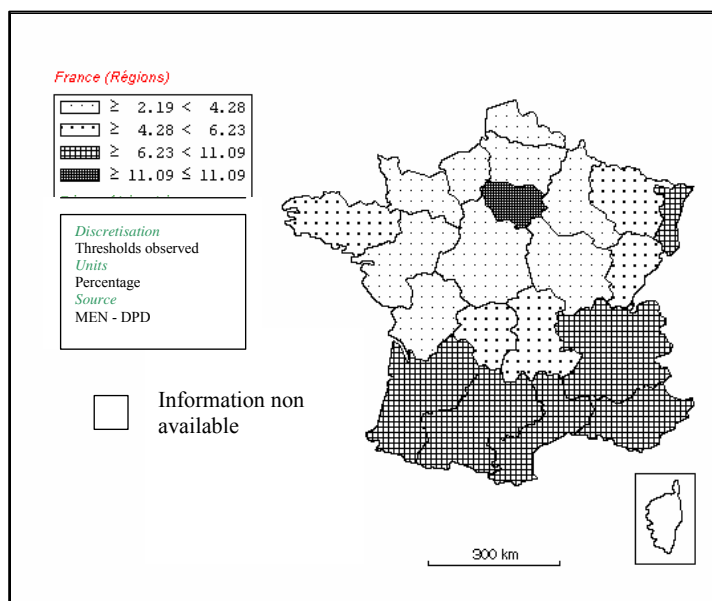


Figure 7: Higher education in 1982 (metropolitan France: 8.17 %)

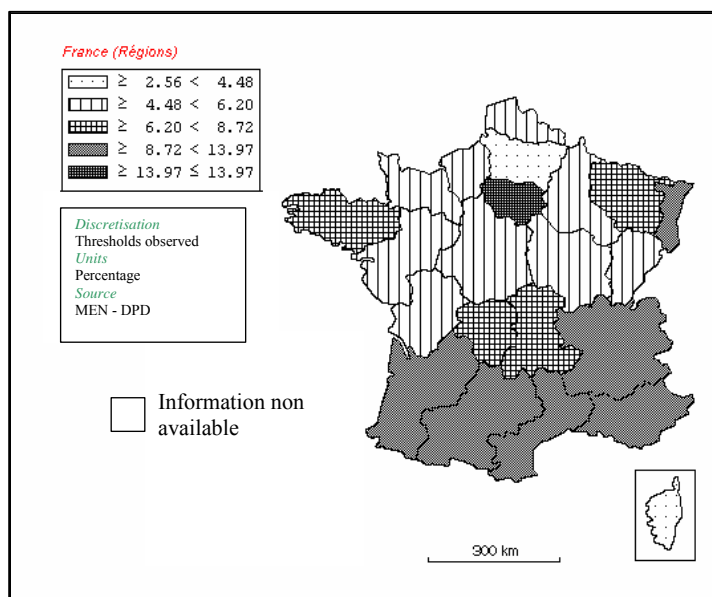


Figure 8: Higher education in 1992 (metropolitan France: 13.3 %)

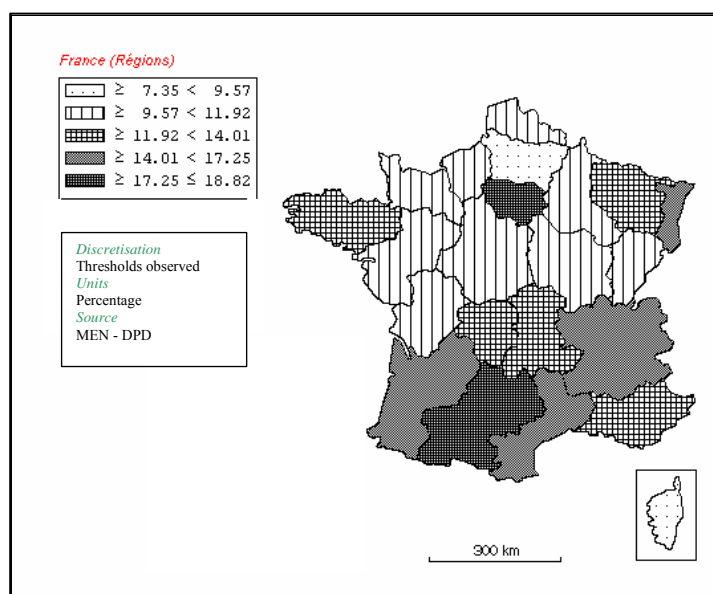
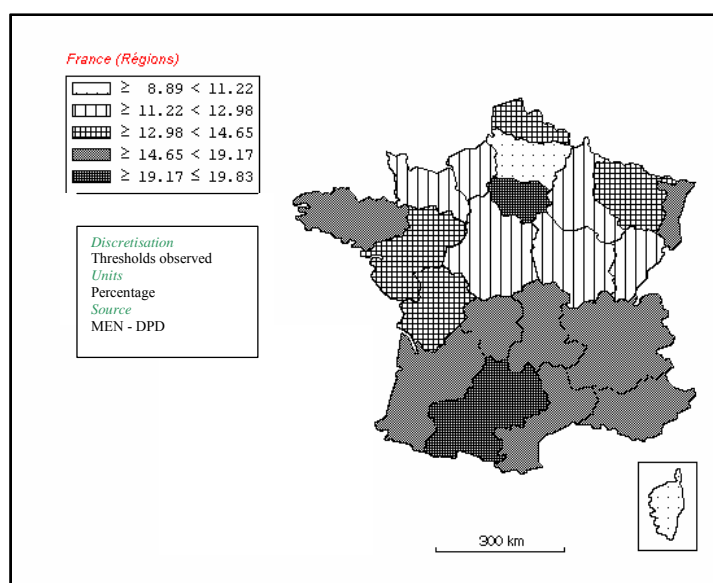
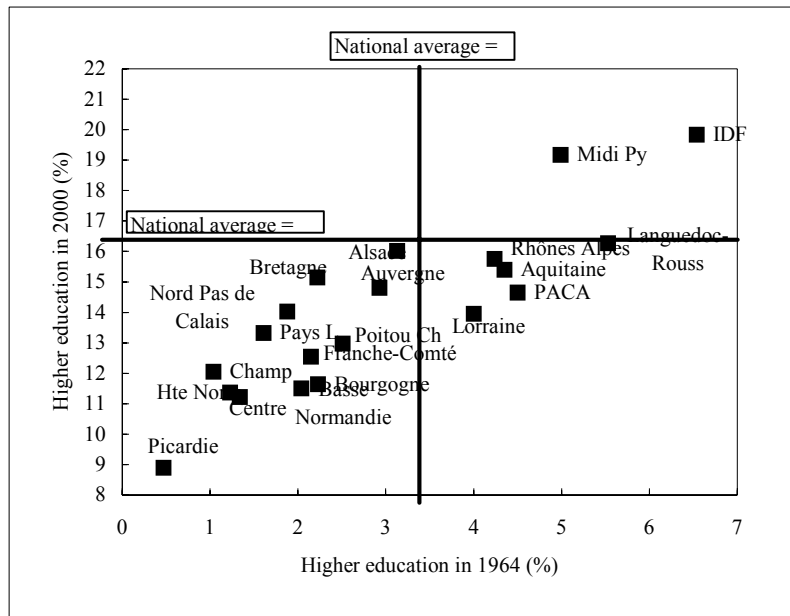


Figure 9: Higher education in 2000 (metropolitan France: 16.43 %)



In 2000, the proportion of higher education ranged from 8.9% in Picardie to 19.8% in Ile-de-France (Figure 10).

Figure 10: Evolution of the proportion of higher education (1964-2000, %)



Source: MEN – DPD

The 'classification' of regions according to the numbers of students in higher education first shows that certain regions remain stable in the ranking, both at the top of the list (Ile-de-France, Midi-Pyrénées and Languedoc-Roussillon) and at the bottom (Centre, Haute-Normandie, Picardie); others have progressed (Bretagne, Alsace, Nord, Champagne Ardennes) or lost ground (Bourgogne, Provence-Alpes-Côte-d'Azur, Lorraine). The improvement of the proportion in the regions that lagged is partly the result of a structure effect related to the change in their social composition. However, in spite of considerable progress, some regions are 'seriously' behind and have difficulty in catching up and reaching average levels.

2. Convergence, a research approach applied to education

As has been seen above, the map of higher education has changed since the mid-1960s. All the regions are concerned by this change. But have they undergone similar changes? Has the evolution led to convergence between regions?

Convergence is one of the essential notions of the neo-classical growth model. In his 1956 founding model, R.M. SOLOW reached the conclusion that economies converge naturally towards a stationary state at velocity v in such a way that:

$$v = (1 - \alpha)(n + \lambda + \delta)$$

in which n is the rate of growth of the working population, α is the elasticity of production in relation to capital, λ is the rate of growth of technical progress and δ is the rate of capital depreciation.

More recent studies on economic growth report two types of convergence:

- β convergence (absolute convergence): convergence is observed when a poor economy tends to catch up with a rich economy in terms of income or per capita production.
- σ convergence (cross-section analysis of dispersion): there is convergence when dispersion measured by the standard deviation of the logarithm of individual income (or production) in a group of economic entities falls in time.

Various authors have addressed the notion of convergence and its empirical verification. However, these analyses generally concern per capita income [in particular BARRO & SALA-I-MARTIN 1991, 1992, 1995 (Chapter 11)].

Although it is a pertinent indicator with regard to economic performances, its interpretation is imperfect at the regional level as its elaboration raises the problem of the location of the factors of production. Following the example of recent studies in terms of convergence [BAUMONT C., ERTUR C. & LE GALLO F. 2002, FUENTE A. DE LA 2002] that propose new indicators such as unemployment or the structure of employment [HOUARD J. & MARFOUK A. 2000], our approach puts forward the hypothesis of the existence of convergence of French regions in questions of education and especially of higher education.

2.1. Methodological reminder

The absolute convergence coefficient is estimated by means of a non-linear regression of transverse data as follows:

$$\frac{1}{T-t} \cdot \ln \left(\frac{Y_{it}}{Y_{it}} \right) = B - \left(\frac{1 - e^{-\beta(T-t)}}{T-t} \right) \cdot \ln Y_{it} + u_i$$

in which t and T are respectively the first and last year of the observation period, i is an economic entity, Y is the economic indicator per person and u is a remainder. In a convergence situation, the mean growth rate during the observation period and the logarithm of the initial level of the per capita economic indicator are linked negatively, implying a positive coefficient β . For a group of n entities i , $i = 1$ at n , it is therefore stated that catching up takes place between dates t and T if coefficient β is significantly positive. Furthermore, the size of coefficient β represents the rapidity with which the level of the per capita economic indicator for the poor entity approaches that of the rich entity.

After non-linear least squares estimation of the equation above, testing for the presence of convergence means performing a significance test on coefficient β , that is to say testing the following hypotheses:

- $H_0: \beta = \beta_0$, no convergence, $\beta_0 = 0$ in this case.
- $H_1: \beta \neq 0$, there is convergence if $\beta > 0$.

Student's statistic t is used for this

$$t_c = \frac{\hat{\beta} - \beta_0}{\hat{\sigma}_{\hat{\beta}}}$$

following student's law with $(n-k)$ degrees of freedom (noted $T(n-k)$), with n being the number of observations (economic entities in this case) and k the number of parameters estimated.

The decision rule is as follows for a 5% significance level:

- if $|t_c| < T_{95\%}(n-k)$, hypothesis H_0 is accepted.
- if $|t_c| > T_{95\%}(n-k)$, the convergence hypothesis is accepted if convergence is $\beta > 0$.

2.2. Widening gaps or a rebalancing of the education map?

The convergence process was estimated for the period 1964-2000. Four sub-periods were tested within the period. The tests were conducted using regional data⁴. Convergence between regions was observed between 1964 and 2000. This means that the gap between regions in the share of higher education in the number of persons receiving education decreased.

<i>Full period: 1964 - 2000</i>				
	coefficient	t-statistic	T(n-k)	hypothesis
β	0.0362	10.8379	1.96	H1
R^2	0.9666	f-statistic	520.4584	

⁴ The regions are the 22 regions of metropolitan France.

Analysis of the sub-periods refined these results and showed that convergence took place throughout the entire period—during all the sub-periods.

Sub-period 1: 1964 - 1972				
	coefficient	t-statistic	T(n-k)	hypothesis
β	0.0556	4.9644	1.96	H1
R ²	0.6975	f-statistic		41.5059
Sub-period 2: 1972 - 1982				
	coefficient	t-statistic	T(n-k)	hypothesis
β	0.0151	3.5306	1.96	H1
R ²	0.4371	f-statistic		14.7545
Sub-period 3: 1982 - 1992				
	coefficient	t-statistic	T(n-k)	hypothesis
β	0.0509	10.9580	1.96	H1
R ²	0.9152	f-statistic		215.8943
Sub-period 4: 1992 - 2000				
	coefficient	t-statistic	T(n-k)	hypothesis
β	0.0186	4.2038	1.96	H1
R ²	0.5116	f-statistic		20.9486

Examination of the size of the β coefficient for the various periods showed that catching up was greatest from 1964 to 1972, then from 1982 to 1992 and finally since 1992. The 1972-1982 sequence forms the period during which convergence is slowest.

<i>Sub-periods</i>	<i>Coefficient β</i>
1964 - 1972	0.0556
1972 - 1982	0.0151
1982 - 1992	0.0509
1992 - 2000	0.0186

How can this convergence process be accounted for? What has happened over the past 40 years? What institutional, population, legal, economic or social changes can be put forward to account for the narrowing of gaps? The creation of new educational establishments, the effects of secondary education policy,

the increased diversity of courses available (new subjects and professional courses), the effects of migration (population and student mobility), variations in population and mass access to universities, etc. are all variables to be considered in an attempt to explain these evolutions.

3. The determinant factors in convergence

Considering education to be an investment was clearly a reality of the 1960s, characterised by an explosion in the number of students in full-time education. The origins lie in the population trend during the immediate post-war period and in the socio-economic ambitions of populations. Although the arrival of the population bulge in higher education at the beginning of the 1960s accelerated spontaneous demand for education, higher family incomes allowed greater sacrifices for children's education. This demand was stimulated by the effects of economic growth providing scope for upward occupational and social mobility and relayed by the public authorities, with expenditure on education increasing very steeply [DIEBOLT C. 1999]. These phenomena were also enhanced by policies that laid stress on the benefits that society could expect from the development of higher education (contribution to growth, technical progress, social mobility, etc.). This period was also marked by political and economic changes. On the one hand new education authority areas were created (Amiens and Rouen in 1964 to take the pressure off Paris) and Limoges and Nice in the following year, stimulating their regions. On the other hand, the including of new subjects in the baccalauréat in 1965 possibly allowed a fair number of pupils—especially in low enrolment zones—to continue their studies. Finally, the creation in 1966 of the BTS (*Brevet de technicien supérieur*) and IUTs (*Institut Universitaire de Technologie*) contributed to increasing numbers in higher education. After the 1968 crisis, the higher education act (*'Loi Faure'*) sought to strengthen the autonomy of the universities. It was aimed in particular at bringing together the universities and local economic environments and administrative units.

The next decade (1972-1982) was marked by a slowing in the convergence trend. It is true that after the *Loi Faure* no important legislation was passed on higher education until 1984, when higher education was reorganised in three 'cycles'. In spite of the increase in the movement towards the professionalisation of university courses in response to the requirements of the production sector, it were as if higher education was caught in a kind of 'institutional rigidity'. The community effort on education continued in the face of the economic slump. In parallel, increased unemployment strengthened the expectations of the population, while the authorities saw in an increase in the level of education the way of getting out of unemployment by the front door by improving the effectiveness and competitiveness of the economy.

In 1984, the *Loi Savary* changed the status of the universities in particular by increasing their autonomy. The implementation of this law corresponded to two objectives considered as complementary in the 9th Plan, that is to say improvement of the effectiveness of the educational system through better matching to economic and social requirements and the democratisation of access to universities [EL HACHEM T.F. 1992]. Several years later, in 1989, Lionel Jospin concretised a proposal by Jean-Pierre Chevènement by proposing a '*loi d'orientation*' (a law setting out basic principles) on education planning to take 80% of each age group to baccalauréat level by 2000. The 1983 and 1985 decentralisation laws strengthened the powers and means of local authorities in questions of education. Although responsibility for higher education was explicitly left to the state, the regions became the potential funders of the universities. Through financing continuing education in particular, they were able to influence the evolution of post-baccalauréat training. From 1989 onwards, local government units, and especially the regions, participated directly in the funding of higher education through the financing of a vast premises development programme called *Plan Université 2000*. Interested in regional development, they had already for a while been financing certain university facilities in medium-sized towns. What was referred to as 'university relocation' developed in a little co-ordinated manner using investment by regions, communes and departments. The state, within the framework of State-Region Plant Contracts, undertook to co-ordinate university development by negotiating with the regions (and through the latter with other local authorities) 5-year development programmes planning the joint funding of new buildings. Higher education was no longer distributed among the large cities. The creation of IUTs and then the relocation of the first part of university education did not just change the French university landscape. By accompanying the general mass enrolment phenomenon in higher education, these relocation operations brought educational facilities closer to where people live and enhanced the access of many baccalauréat-holders to higher education. The period was also marked by a poor economic situation and resumption of increased unemployment among young people. In an economy with under-employment, higher education is not only the result of an economic calculation based on a possible return on the investment. It can also be experienced simply as protection against unemployment [CANALS V. & DIEBOLT C. 2001].

The main problem in the 1990s was that of handling a continuously larger number of students: 1,700,000 in 1990 and 2,110,000 in 2000. Half of the persons in an age bracket—all types of baccalauréat cumulated—enrol in higher education. Even of the objective of 80% was not attained, the evolution of the number of baccalauréat-holders resulted from spectacular progress in school attendance by young people and had the direct result of increasing the numbers starting higher education. When the 22 French regions are compared—with the exception of Ile-de-France which accounts for 26% of students

in higher education—students are concentrated in the Nord-Pas-de-Calais, Rhône-Alpes, Provence-Alpes-Côte-d’Azur and Midi-Pyrénées regions. The state set up a multiannual plan between the regions, the state and the universities in order to alleviate these imbalances. The first regions to benefit from the plan were Nord-Pas-de-Calais, with the creation of a new university, and Ile-de-France, with the equipping and renovation of campuses and the creation of four universities. Since 1994, the regions have begun to draw up regional higher education plans with formal consultation of the universities in their preparation [EURYDICE 2000]. This management of higher education by local authorities contributes to broadening the map of universities. The aim of the *Plan Université 2000* set up in 1990 was to face the increase in the number of students and also to perform certain quality and quantity rebalancing operations between Ile-de-France and the regions, between large and medium-sized towns and between courses, with emphasis laid on the development of scientific, technical and vocational courses. With completion planned for 1995, it was relayed and complemented in 1994 within the framework of the 11th Plan by the State-Region Contract Plans (1994-1998). The *U3M* plan was announced in 1999. Proposed by Claude Allègre, it planned that only diplomas awarded after baccalauréat + 3 years, 5 years and 8 years should be recognised. This encouraged students in all regions to obtain these diplomas and hence to continue their university careers. As a result, the large education authorities could not alone handle the mass of extra students. Local university units were therefore developed in medium-sized towns to alleviate the main university centres. In addition to relocated higher education, these towns make regional interaction possible. For example, with the creation of a university centre in Perpignan, students from the Aude department who used to study in Toulouse were now in the Montpellier education authority area, depending on the Languedoc-Roussillon region and not on Midi-Pyrénées. This resulted in a rebalancing of regions, accentuated by multiannual state-region-university plans aiming to use triple funding to restore an inter-regional balance in both the quality and the quantity of teaching provided.

Conclusion

The growth in student numbers has slowed since the mid-1990s⁵. The decrease has not been uniform throughout France so far. Some regions appear to be little affected (Provence-Alpes-Côte-d’Azur, Languedoc-Roussillon and Midi-Pyrénées). Others are more sensitive to the phenomenon and are wondering about

⁵ The student population stabilised in the last two academic years after three years of decrease that started in 1996-1997. The slowing is the result of a combination of several factors: a decrease in the number of baccalauréat-holders, a population dip, a decrease in the desire to continue after a first degree, etc.

their attractiveness (image, reputation, education provided, etc.). How will this halt in the increase in numbers affect the regional convergence process?

- Will the long convergence process become less marked and leave room for differences between regions strongly marked by 'historical' structural inequalities in education that cannot be corrected by the efforts of public policies? Can it be suggested in this case that the regions have reached an endogenous level of development of higher education that can be considered as a threshold?
- Will the convergence process reverse, with an accentuation of the differences between regions tending towards a kind of regional specialisation in the higher education system?

The future will doubtless enable us to settle these hypotheses—and also to measure the extent of our ignorance!

References

- Amossé T. (2001) RGP 1999. L'espace des métiers de 1990 à 1999, *Insee première*, 790, juillet.
- Aubry B. (2001) RGP 1999 Les métiers se redéployent sur le territoire métropolitain, *Insee première*, 792, juillet.
- Baron M., Grasland C., Raulin E., Saint-Julien T. & Toutin G. (1998) *La mobilité géographique des étudiants des universités*, MENRT, Direction de la Prospective et du Développement et Equipe PARIS, 70 pages.
- Baron M., Grasland C., Saint-Julien T. & Sanders L (1999) *Les migrations contraintes et les déterminants individuels de la mobilité entre pôles universitaires*, MENRT, Direction de la Prospective et du Développement et Equipe PARIS, 97 pages.
- Barro, R.J. (1991) Economic Growth in a Cross Section of Countries, *Quarterly Journal of Economics*, 106, pp. 407-443.
- Barro R.J. & Sala-I-Martin X. (1992) Convergence, *Journal of Political Economy*, 100, pp. 223-251.
- Barro R.J. & Sala-I-Martin, X. (1995) *Economic Growth*. McGraw-Hill, Inc., New York.
- Baslé M. & Le Boulch J.-L. (1999) L'impact économique de l'enseignement supérieur et de la recherche publique sur l'agglomération de Rennes, *Revue d'Economie Régionale et Urbaine*, 1, pp. 115-134.
- Baudouin S. (1996) *L'évolution sociale de la population active*, *Insee première*, n°434, mars.
- Baumont C., Ertur C. & Le Gallo F. (2002) Estimations des effets de proximité dans le processus de convergence régionale: une approche par l'économétrie spatiale sur 92 régions européennes (1980-1995), *Revue d'Economie Régionale et Urbaine*, 2, pp. 203-216.

- Béduwé C. & Fourcade B. (2000) Hausse d'éducation et fabrication des compétences: intérêt de l'approche générationnelle, *LIRHE*, note 332.
- Béduwé C. & Planas J. (2002) Hausse d'éducation et marché du travail – Résumé d'un projet de recherches TSER, *LIRHE*, note 357.
- Bennani N. (1998) Les migrations inter académiques des bacheliers à l'entrée dans le supérieur (cité par DATAR 2001).
- Boltanski L. (1980) Croissance universitaire et montée des cadres en France (1960-1975), *Sociologie et sociétés*, 12, pp. 67-100.
- Boudon R. (1973) *L'inégalité des chances*, Armand Colin, Paris.
- Boumahdi R., Diederichs L. & Plassard J.-M. (1994) Les densités de bacheliers: une analyse économétrique des disparités régionales, *Revue d'Economie Régionale et Urbaine*, 5, pp. 851-868.
- Canals V. (2001) Formation-insertion et transformation de la relation salariale, L'Harmattan, Paris.
- Canals V. & Diebolt C. (2001) Pourquoi entrer à l'université? L'exemple d'une université de lettres et sciences humaines, *International Review of Education*, 47, pp. 539-572.
- Canals V. & Diebolt C. (2002) France, Cordier H. & Ehlert H., *The Transition from Higher Education to the Labour Market. International Perspectives and Challenges*, Peter Lang, Frankfurt am Main, pp. 13-54.
- Comité de coordination des programmes régionaux d'apprentissage et de formation continue (2001) *Evaluation des politiques régionales de formation professionnelle 2000-2002*.
- Conférence des Présidents d'Université (1999) *Rapport de la Conférence des Présidents d'Université sur l'aménagement du territoire*, 18 novembre.
- Datar (1998) *Développement universitaire et développement territorial. L'impact du Plan U 2000 (1990-1995)*, La documentation française, Paris.
- Datar (2001) *Schéma de services collectifs de l'enseignement supérieur et de la Recherche*, juillet.
- Dauty F. (2001) Dynamique des régulations territoriales et évolution de l'offre de formation, *10èmes Journées du Local*, Paris, octobre.
- Demeulemeester J.-L. (1995) *Analyse économique de la demande d'enseignement supérieur universitaire*, Thèse de Doctorat en Sciences Economiques, 2 volumes, Université Libre de Bruxelles.
- Diebolt C. (1999) Les effectifs scolarisés en France: XIXème et XXème siècles, *International Review of Education*, 45, pp. 197-213.
- Diebolt C. (2002) What is Convergence?, *Historical Social Research. An International Journal for the Application of Formal Methods to History*, 27, pp. 203-205.
- Diebolt C., Jaoul M. & San Martino G. (2003) Primary Education by Administrative Department in France in the 19th Century. A Cliometric Analysis in Terms of Convergence, *American Economic Association (Allied Social Science Associations—Economic History Association)*, Washington, 3-5 janvier, 36 pages (à paraître).

- Duru-Bellat M. & Kieffer A. (1999) *La démocratisation de l'enseignement revisitée. Une mise en perspective historique et internationale des inégalités des chances scolaires en France*, Irédu, Dijon, Cahiers de l'IREDU, n°60.
- El Hachem T.F. (1992) *A quoi sert le Plan? Un regard sur le système éducatif*, Economica, Paris.
- Eurydice (2000) *Vingt années de réformes dans l'enseignement supérieur en Europe: de 1980 à nos jours, France – description nationale*.
- Fuente A. de la (2002) On the Sources of Convergence: A Close Look at the Spanish Regions, *European Economic Review*, 46, pp. 569-599.
- Gagnol L. & Héraud J.-A. (2001) Impact économique régional d'un pôle universitaire: application au cas strasbourgeois, *Revue d'Economie Régionale et Urbaine*, 4, pp. 581-604.
- Galland O. & Rouault D. (1996) Des études supérieures inégalement rentables selon les milieux sociaux, *Insee première*, 469, juillet.
- Goux D. & Maurin E. (1995) Origine sociale et destinée scolaire: l'inégalité des chances devant l'enseignement à travers les enquêtes Formation Qualification Profession 1970, 1977, 1985, 1993, *Revue Française de Sociologie*, 36, pp. 81-121.
- Grosseti, M. (1994) *Université et territoire. Un système local d'enseignement supérieur*, Presses universitaires du Mirail, Toulouse.
- Houard J. & Marfouk A. (2000) Portrait socio-économique des régions européennes, Beine M. & Docquier F., *Croissance et convergence des régions. Théorie, faits et déterminants*, De Boeck Université, Bruxelles.
- Insee (1965-2000) *Annuaire statistique de la France*.
- Jaoul M. (2002a) Education, population et croissance en France après la Seconde Guerre Mondiale: une analyse cliométrique, Dupuis, J.-M., El Moudden C., Gravel F., Lebon I., Maurau G & Ogier N., *Politiques sociales et croissance économique*, Tome II, L'Harmattan, Paris, 2002, pp. 177-192.
- Jaoul M. (2002b) Enseignement supérieur et origine sociale en France: étude statistique des inégalités depuis 1965, *DT-Lameta*, 19, Université Montpellier I, 27 pages.
- Julien P., Laganier J. & Pougnaud J. (2001) Les études supérieures: un motif de migration, *Insee première*, 813, novembre.
- Men – Dpd (2001) *Géographie de l'école*, 7, octobre.
- Men – Dpd (2002a) *Repères et références statistiques 2002 sur les enseignements, la formation et la recherche*.
- Men – Dpd (2002b) *L'atlas régional: les effectifs d'étudiants en 1999-2000*, janvier.
- Meuret D. (2000) La transmission des inégalités par l'école, une approche politique, Daniel C. & Le Clainche C., *Mesurer les inégalités: de la contribution des indicateurs aux débats sur les interprétations*, DREES, Coll. "MIRE", Paris.
- Sénat (2001) *Loi de finances pour 2002*, Tome III, Les moyens des services et les dispositions spéciales – Annexe 16 – Éducation nationale: II. Enseignement supérieur, Marini, P. (rap) – novembre.

- Solow R.M. (1956) A Contribution to the Theory of Economic Growth, *Quarterly Journal of Economics*, 70, pp. 65-94.
- Thelot C. & Vallet L.A. (2000) La réduction des inégalités sociales devant l'école depuis le début du siècle, *Economie et Statistique*, 334, pp. 3-32.
- Vallet L.A. (1988) L'évolution de l'inégalité des chances devant l'enseignement. Un point de vue de la modélisation statistique, *Revue Française de Sociologie*, 29, pp. 395-423.
- Vincens J. (2000) L'évolution de la demande d'éducation, *LIRHE*, note 329.
- Vincens J. (2002) Enseignement supérieur: les défis de la prospective, *LIRHE*, note 366.
- Voisard J. & Lavallard F. (1997) *Evolution des systèmes d'enseignement à travers la France. 50 ans de croissance et après?*, GERI, La documentation française, Paris.